Knowledge, Attitude, Self-Efficacy, Literacy and CRC Screening in Rural Community Clinics

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Colon Cancer is Common in U.S.

• Colorectal cancer (CRC) is the 3rd most common cancer & 2nd leading cause of cancer deaths in the US

CRC Incidence Rates by State, 2012 – **Louisiana ranks 3rd**

http://www.cdc.gov/cancer/colorectal/statistics/state.htm
Colon Cancer Higher in Louisiana
CRC Incidence Rate US vs LA, 2007-2011

Rate Per 100,000

<table>
<thead>
<tr>
<th>Group</th>
<th>LA Rate</th>
<th>US Rate</th>
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<tbody>
<tr>
<td>White Males</td>
<td>57.6</td>
<td>49.6</td>
</tr>
<tr>
<td>Black Males</td>
<td>73.3</td>
<td>62.3</td>
</tr>
<tr>
<td>White Females</td>
<td>40.2</td>
<td>37.3</td>
</tr>
<tr>
<td>Black Females</td>
<td>52.8</td>
<td>47.5</td>
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</table>

*Statistically significant difference.

Age-adjusted to the 2000 US standard population.
Data source: 18 SEER registries.
CRC Screening is Effective

- FOBT can decrease mortality by 15-33%
- Annual FIT/FOBT screening is an effective CRC tool, but year screening adherence is low
- FOBT/FIT tests are appropriate /recommended screening tool where gastroenterologists and colonoscopy feasibility are limited

http://www.screeningforlife.ca/colorectalcancer
Screening Disparities

• Adherence to screening recommendation is lower than other cancer screening initiatives

• Significant disparities exist in certain populations

• Risk factors for poor CRC screening adherence:
  • Low SES
  • Low health literacy
  • Minority race/ethnicity
  • Rural locality

• Barriers:
  • Screening information not patient friendly, requires high literacy skills
  • Lack of recommendation & annual prompting
  • Lack of access to tests
US Health Agencies call for Improvement

Healthy People 2020 objectives:

• Reduce annual CRC deaths
• Increase the proportion of adults who receive a colorectal cancer screening based on the most recent guidelines*
• Improve the health literacy of the population
• Reduce health disparities resulting from social determinants of health

National CRC Roundtable - Set goal of 80% screening by 2018
  ◦ Called for Federally Qualified Health Centers (FQHCs) to be central focus for addressing national screening challenges

DHHS National Action Plan 2010

• Provide health information and services that are accurate, assessable understandable and actionable

*HP 2020 leading health indicator
Federally Qualified Health Centers
Uniquely Positioned to Address Disparities

- Government supported clinics provide services to >23 million regardless of insurance status
- 44 states; over half in rural areas
- 30% rural, 65% belong to racial and ethnic minorities, 72% at or below poverty line
- In 2015 60% designated as Patient Centered Medical Homes (encouraged & incentivized to have EHR & health coaches)
CRC Screening: Benefits of FOBT (FIT)

- FIT, the most sensitive FOBT, proven effective for the early detection of cancer

- More cost effective, easier to use than traditional FOBT, less restrictions and simpler instructions

- Patients living in rural areas have more difficulty getting colonoscopies.
"Health Literacy Interventions to Overcome Disparities in CRC Screening"

5 year RCT in 4 rural FQHCs: 650 patients, ages 50-75

- **Compare** effectiveness & cost effectiveness of personal calls vs. automated calls to improve initial and repeat CRC screening.
- **Conduct** process evaluation to investigate implementation and barriers.
- **Determine** if the effects of either strategy vary by patients’ literacy.
- **Explore** patients’ understanding, beliefs & self-efficacy for CRC screening over time.
**Study Sites**

*4 South Louisiana Rural Community Clinics*

Patient Enrollment to Date  
(N = 599)

<table>
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<tr>
<th>Race</th>
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<tr>
<td>African-American</td>
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<tr>
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<table>
<thead>
<tr>
<th>Gender</th>
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<tbody>
<tr>
<td>Female</td>
<td>56%</td>
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<tr>
<td>Male</td>
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<table>
<thead>
<tr>
<th>Literacy</th>
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<tr>
<td>&lt; 9&lt;sup&gt;th&lt;/sup&gt; Grade Reading Level</td>
<td>40%</td>
</tr>
<tr>
<td>&gt;= 9&lt;sup&gt;th&lt;/sup&gt; Grade Reading Level</td>
<td>60%</td>
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*CRC screening Rate 3% - 5%*
Methods

Enrollment: RA gives patients CRC survey, screening recommendation, HL patient education, simplified FIT instructions, and FIT kit. Patients randomized to PC or ATC arm.

**IF No FIT kit returned:**
- **4 Weeks & 8 weeks**
  - **PC Arm:** a personal follow-up call from a prevention coordinator reminding patients to complete & mail FIT kits & discuss any barriers perceived by the patient.
  - **ATC Arm:** automated follow-up call with voice recording uses plain language and motivational messages encourages patients to complete & mail the FIT.

**6 Months**
- Central RA calls & re-administers baseline survey as well as satisfaction survey with all patients.

**12 Months**
- **PC Arm:** mail outreach reminder cards and FIT kits for CRC rescreening, re-implement personal call strategy at 4 & 8 weeks.
- **ATC Arm:** mail outreach reminder cards and FIT kits for CRC rescreening, re-implement automated call strategy at 4 & 8 weeks.

**24 Months**
- **PC Arm:** mail outreach reminder cards and FIT kits for CRC rescreening, re-implement personal call strategy at 4 & 8 weeks.
- **ATC Arm:** mail outreach reminder cards and FIT kits for CRC rescreening, re-implement automated call strategy at 4 & 8 weeks.
Survey Instruments

Questionnaire (Pre and Post):

- Structured survey measuring patient knowledge, beliefs, and self-efficacy about CRC screening
- Administered at baseline and 6 months after enrollment

Literacy assessed by the REALM
Materials

**Simplified FIT Instructions: 3rd Grade Reading Level**

**How to do the test**
- When you are ready to have a BM (poop), bring the test kit into the bathroom with you. You will do the test 2 times using 2 different BMs.
- Do not do the test if you have:
  - Hemorrhoids that are bleeding;
  - Blood when you pee or see blood in the toilet.

**Get things ready.**
- Take any cleaners out of your toilet.
- Flush the toilet 2 times.

**Use the bathroom.**
- After your BM, wipe. Do not put toilet paper in the toilet. Put it in the blue bag from your kit.
- Store the card with your first sample and the rest of the kit in the bathroom until you do the 2nd sample.
- Do not put test in refrigerator!

**Start the test.**
- Get the card, lift the tab where it says “sample 1.”
- Before you flush the toilet, gently wipe the brush over your poop for 5 seconds.
- Shake the brush lightly to remove any dumps.

- Gently dab the brush on the white square under the tab for 5 seconds. It’s okay if the card changes color.
- Put the used brush in the same bag as your toilet paper. Throw this bag away.
- Write your name, your date of birth, and today’s date on the label. Peel off the label and stick it over the flap on your card to seal the tab.
- Put the card in the envelope and mail your test to the lab.
- You need to mail your test within 2 weeks of your first BM.

**CRC Educational Pamphlet: 4th Grade Reading Level**

**What you need to know about colon cancer screening:**
- If you are 50 to 74 years old, you need to get tested for colon cancer even if you feel fine.
- Both men and women need to be tested.
- The test looks for hidden blood before you have problems.
- Getting tested can save your life.

**The Fecal Immunochemical Test (FIT) is the easiest way to get tested for colon cancer**
- The test is painless and easy.
- You do it at home.
- It looks for hidden blood in your stool (poop).
- It is recommended by the American Cancer Society.
- You need to do the test every year.

**How will I get my results?**
- Mail the test in the special envelope to the lab.
- The lab will let your health care provider know the results and you will get the results within a month.

**InSure FIT Kit Sample**

**KIT CONTENTS**
- Instructions for use
- A Test Card
- A Brush Kit containing 2 brushes and 2 waste bags
- A Reply Form/Test Requisition
- A Return Envelope

*Keep out of reach of children*
Baseline Survey Results

• 90% of participants reported having heard of CRC
  • However, only 64% knew a test to check for CRC
• 70% reported their provider recommending CRC screening in the past
• 91% reported they would want to know if they have CRC
• 90% indicated they would be able to return the test to the lab.
Results to Date – Year 1

599 patients enrolled to date (300 – Automated Arm / 299 – Personal Arm)

• 412 (69%) completed tests [210 (70%) Automated / 202 (68%) Personal]
  • 42 (10.2%) positive
    • 42 recommended for a colonoscopy – 4 have refused
  • 8 outside lab window to analyze

Follow-up calls for Unreturned Kits

• Automated Call Arm
  • 113 people called – 26 returned FIT (23% of people called completed FIT; 12% of completed FIT in AC arm were result of call)

• Personal Call Arm
  • 115 people called – 22 returned FIT - (19% of people called completed FIT; 11% of completed FIT in PC arm were result of call)
Results to Date – Year 2

129 Second kits mailed out to-date

• **AC Arm (n=61)**
  • 29 (48%) completed kits
    • 2 (7%) positive
    • 2 returned – outside lab window to analyze
  • 44 people called – 10 returned FIT - (23% of people called completed FIT; 35% of completed FIT in PC arm were result of call)

• **PC Arm (n=68)**
  • 28 (41%) completed kits
    • 3 (11%) positive
    • 2 returned – outside lab window to analyze
  • 48 people called – 9 returned FIT - (19% of people called completed FIT; 32% of completed FIT in PC arm were result of call)
Lessons & Challenges

• Regulatory paper work is a barrier for community clinic RAs
• RAs need very concrete research instructions and frequent “teach back” of protocol
• Frequent face-to-face clinic visits with food build relationships & enhance fidelity
• Arranging for diagnostic colonoscopy for uninsured/underinsured is challenging
Implications

- Providing literacy appropriate education, demonstrating the FIT test & follow-up outreach has the potential to increase screening rates.

- There is an indication that follow-up calls are helpful in year 2
  - over 70% of patients in each arm needed a reminder call and over 30% of those who received a call completed the FIT
    - Compare that to year 1, 38% of patients needed a reminder call and the calls added just over 10% improvement in both arms.

- Improved screening rates would potentially address public health disparities and improve health outcomes
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